Title: Document Watermarking Method Using Line Margin
Shifting
Inventor: Joe PASQUA
Application No.: NEW
Docket No.: 505102000600

Sheet 1 of 3

_16_

We would like to deter copying of this document
by embedding an imperceptible watermark that
identifies the original recipient of the document.
If an illicit copy is later found, the watermark can
be read from the document to determine its source.
At that point appropriate action can be taken to

**Original block
of text.**

_10_

to determine how the document was leaked.

_18_ _16_

12

**Exaggerated
shifts in the
text block of
~0.07". This is
10 times what
a typical value
would be.**

We would like to deter copying of this document
   by embedding an imperceptible watermark that
identifies the original recipient of the document.
If an illicit copy is later found, the watermark can
   be read from the document to determine its source.
At that point appropriate action can be taken to

unshifted - control line
shifted right - 1 bit
shifted left - 0 bit
shifted left - 0 bit
shifted right - 1 bit
shifted left - 0 bit
unshifted - control line

_18_

to determine how the document was leaked.

_16_ We would like to deter copying of this document
by embedding an imperceptible watermark that
identifies the original recipient of the document.
If an illicit copy is later found, the watermark can
be read from the document to determine its source.
At that point appropriate action can be taken to

**Typical shifts
of ~0.007" in
the text block.**

_18_ to determine how the document was leaked.

_14_

Figure 1

Title: Document Watermarking Method Using Line Margin
Shifting
Inventor: Joe PASQUA
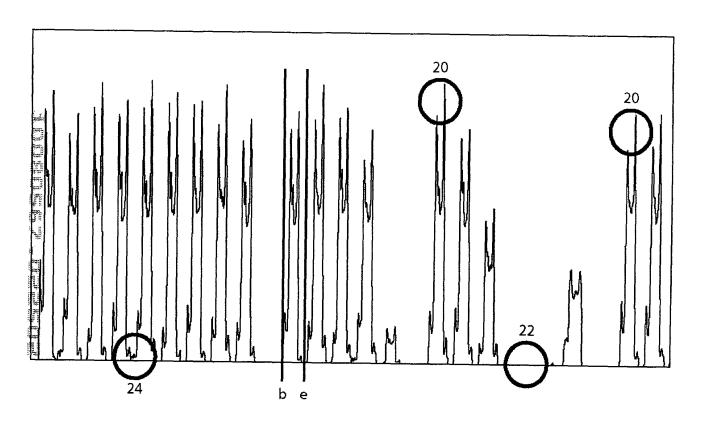Application No.: NEW
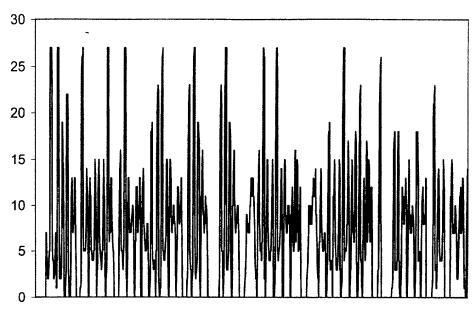Docket No.: 505102000600

Sheet 2 of 3

Figure 2

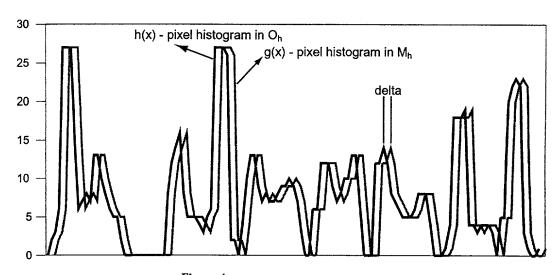Title: Document Watermarking Method Using Line Margin
Shifting
Inventor: Joe PASQUA
Application No.: NEW
Docket No.: 505102000600

Sheet 3 of 3

Figure 3

h(x) - pixel histogram in O_h

g(x) - pixel histogram in M_h

delta

Figure 4